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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,620	02/26/2002	Kate Loughney	27866/38275	4342
4743	7590	01/14/2004	EXAMINER	
MARSHALL, GERSTEIN & BORUN LLP 6300 SEARS TOWER 233 S. WACKER DRIVE CHICAGO, IL 60606			HUTSON, RICHARD G	
			ART UNIT	PAPER NUMBER
			1652	

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/083,620	LOUGHNEY, KATE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Richard G Hutson	1652	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5/02</u> | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Applicants cancellation of claims 1-33, and the addition of claims 34-37 in the paper of 11/4/2003, is acknowledged. Claims 34-37 are still at issue and are present for examination.

Applicant's election of Group IV, Claims 34-37 (corresponding to previous claims 24-27) and SEQ ID NO: 1 or the sequence encoding SEQ ID NO: 2, is acknowledged. Applicants traverse the requirement for applicants to choose a single SEQ ID NO: from the group consisting of SEQ ID NOs 2, 19, 21 and 23. The traversal is on the ground(s) that the restriction of the inventions (A) – (D) is improper because as was discussed during a teleconference of October 16, 2003, previously added claims 34-37 adopt the language of allowed in related U.S. Patent No. 6,350,603, which was examined by the same examiner and the allowed claims include claims encompassing each of the asserted separate inventions (A) – (D). Applicants further traverse the restriction requirement on the basis that the examiner has not shown a serious burden would be required to examine all of the members of the Markush group. Applicants support their position by noting that the previous claim encompassed only four amino acid sequences and their corresponding polynucleotide sequences.

Applicants traversal is not found persuasive for the following reasons. First applicants are reminded that the related application to which applicants refer is a completely separate and independent application which has no bearing with regard to this application and its examination and/or search and thus any decision which was

made in the earlier referred to application is pertinent only to that application and not this application. Further applicants are reminded that the application to which applicants refer is drawn to polynucleotides, while the present applications claims are drawn to methods to identify a specific binding partner compound of a phosphodiesterase polypeptide and thus the necessary burden for the search and examination of each of these different inventions is different and thus decisions made in one application are not necessarily relevant to decisions regarding the other application.

Further applicants are reminded that unlike the '603 application, a proper search of the current application would not merely need to focus on a single sequence such as a polynucleotide sequence, but rather the instant application would further need to consider not only the polynucleotide sequence, but also the encoded polypeptides which is in and of itself a considerable larger burden. This along with the necessary search of non recombinantly produced proteins and the number of nucleic acid and protein databases that must be searched for every sequence in the claims clearly adds an undue burden in the examination of additional amino and nucleic acid sequences. Applicants comments regarding the high sequence similarity of the different referred to sequences are acknowledged, however such comments are not found relevant as regardless of the similarity of the sequences to each other, the introduction of each additional sequence beyond that sequence elected by applicants adds an additional burden to the search and examination of the claims that is clearly undue.

Thus applicants traversal of the restriction requirement is not found persuasive.

The requirement is still deemed proper and is therefore made FINAL.

### ***Specification***

The disclosure is objected to because of the following informalities: The summary of the invention recites "preferred polypeptides comprise the amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:18, SEQ ID NO:20 and SEQ ID NO:22"(page 3, line 31 - page 4, line 2). SEQ ID NOs 18, 20 and 22 are all nucleic acid sequence **not** amino acid sequence. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 34-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Fisher et al. (U.S. Patent No: 5,922,595).

Fisher et al. teach the isolation, cloning as well as nucleic and amino acid sequence of a new cyclic GMP phosphodiesterase. While Fisher et al. call the new phosphodiesterase, phosphodiesterase 9A (PDE9A), the examiner believes that PDE9A is the same molecule or at the very least is a member of the same family as PDE10 of the instant application based on the extremely large amount of identity shared between the molecules disclosed in the instant application and those taught by Fisher et al.

Fisher et al. teach a 1997 nucleotide cDNA molecule (SEQ ID NO: 2) that encodes a 593 amino acid polypeptide (SEQ ID NO: 1). The instant application discloses a 1548 nucleotide cDNA molecule (SEQ ID NO: 1) that encodes a 466 amino acid protein (SEQ ID NO: 2). Additionally, longer, overlapping cDNAs (SEQ ID NOs: 18, 20 and 22) are also disclosed by the instant application. A comparison of Fisher et al.'s SEQ ID NO: 1 and SEQ ID NO:2 of the instant application reveals that amino acid sequence between amino acid 21 and 466 of the instant application is identical except for a single mismatch. The protein taught by Fisher et al. extends an additional 148 amino acids in the NH<sub>3</sub>-terminal direction. The nucleic acid sequence that encodes these additional NH<sub>3</sub>-terminal amino acids shares a large amount of identity with the nucleic acid sequence of SEQ ID NOs: 18, 20 and 22. In addition to the disclosed nucleic and amino acid sequences, Fisher et al. also teach methods to identify molecules which interact with the phosphodiesterase polypeptide PDE9A comprising contacting PDE9A with a compound, detecting binding and identifying the compound.

### ***Remarks***

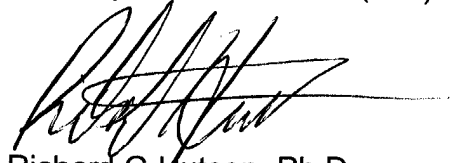
No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard G Hutson whose telephone number is (703) 308-0066. The examiner can normally be reached on 7:30 am to 4:00 pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on (703) 308-3804. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3014.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

A handwritten signature in black ink, appearing to read 'Richard G. Hutson', with a long horizontal line extending to the right.

Richard G Hutson, Ph.D.  
Primary Examiner  
Art Unit 1652

rg  
1/9/2003